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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/183,335	10/30/1998	ROBERT A. FOSTER	M-7085US	3004

32605 7590 09/02/2009

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EXAMINER	
BORLINGHAUS, JASON M	

ART UNIT	PAPER NUMBER
3693	

MAIL DATE	DELIVERY MODE
09/02/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/183,335	FOSTER, ROBERT A.	
	Examiner	Art Unit	
	JASON M. BORLINGHAUS	3693	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date. _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 - 2, 4 – 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disclosed Prior Art (applicant's specification, pp. 1, line 15 - 2, line 21) and Parsaye (Parsaye, Kamran & Chignell, Mark. Expert Systems For Experts. John Wiley& Sons. 1988. pp. 35 -60, 177 - 178, 191 -210 and 295 - 309).

Regarding Claims 1- 2, Disclosed Prior Art discloses, a method for pricing financial transactions (products), said method comprising:

- creating a plurality of price tables (fee arrangements - see p. 2, lines 1 - 7);
- a plurality of product rules (product designation. "Fee arrangements can take many shapes, e.g., ***by product***..." - see p. 2, lines 1 - 7) each

applicable to one or more of said financial transactions (products), wherein each of said product rules (product designation) is linked to one of said price tables (fee arrangements). (see p. 2, lines 1 - 21); and

- for each one of said financial transactions (products). (see p. 2, lines 1 - 21):
- identifying an applicable one of said product rules (product designations) for said transaction (product). (see p. 2, lines 1 -21); and
- pricing said transaction (calculating fee for said product) according to the price table (fee arrangement) linked to said identified applicable product rule (product designation). (see p. 2, lines 1 - 21); and
- wherein said price table (fee arrangement) comprises a billing (calculation of fees) method. (see p. 2, lines 1 -21).

Disclosed Prior Art does not teach performing ***in a data processing system,*** a method comprising: creating, ***in a database system of the data processing system,*** a plurality of price tables; and creating, ***in the database system,*** a plurality of product rules; ***wherein product rules comprise a plurality of attributes, and wherein a search key is constructed for each product rule from one or more of said attributes to link each applicable to one of said price tables***. (emphasis added).

Parsaye discloses performing in a data processing system (expert system), a method comprising:

- creating, in a database system of the data processing system (expert system), a plurality of price tables (frames). (see pp. 35 – 60 and 195 - 211); and
- creating, in the database system, a plurality of product rules (rules). (see pp. 48 – 57);
- wherein product rules (rules) comprise a plurality of attributes (slots, values or attributes), and wherein a search key(frame-name) is constructed for each product rule (rule) from one or more of said attributes (slots, values or attributes) to link each applicable to one of said price tables (frames). (see pp. 48 – 57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art by incorporating a database storage capacity and a rule-based system/method for retrieval, as disclosed by Parsaye, to allow for the use of an expert system to automate the retrieval and application of data, such as pricing, efficiently and quickly.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have automated the method, since it has been held that broadly providing a mechanical or automatic means to replace manual activity that accomplishes the same result involves only routine skill in the art. *In re Venner, 120 USPQ 192.*

Regarding Claim 4, Disclosed Prior Art does not teach a method wherein each of said product rules is linked to one of said price tables by a price table name.

Parsaye discloses a method wherein each of said product rules (rules) is linked (related) to one of said price tables (frames) by a price table name (frame-name). (see pp. 191 -200, especially 5.8.1. Rules That Act on Frames, p. 196).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art and Parsaye by incorporating a linkage between the product rule (product designation) and price tables (frames) by the name of the price table (frame), as disclosed by Parsaye, to incorporate and utilize standard conventions and procedures commonly utilized for rule-based expert systems, such as allowing the rule access to the stored information.

Regarding Claim 5, Disclosed Prior Art discloses a method wherein an entry in each of said price tables (fee arrangements) comprises a pricing method (fee). (see p. 2, lines 1 - 21).

Regarding Claim 19, Disclosed Prior Art does not teach a method wherein said product rules comprise a default rule.

Default rules in a rule-based expert system is old and well-known in the art of computer system design and expert system design, as evidenced by Parsaye (see pp. 177- 178). It would have been obvious to have modified Disclosed Prior Art and Parsaye by incorporating a default rule, as disclosed by Parsaye, allowing for the assumption that some "events have regular or default behavior." (see p. 177).

Claims 3, 17 - 18 and 23 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disclosed Prior Art and Parsaye, as in Claim 1 above, and in further

view of Hendler (Hendler, James A. *Expert Systems: The User Interface*. Albex Publishing Corporation. Norwood, NJ. 1988. pp. 31, 46 - 47, 113 and 133).

Regarding Claim 3, Disclosed Prior Art discloses a method, wherein each of said product rules (product designation) comprises:

- a name of said product rule (product designation. "Fee arrangements can take many shapes, e.g., ***by product***..." - see p. 2, lines 1 - 7 - Inherently there must some name for the product if the fee arrangement is organized by product); and
- pricing and billing information (fee arrangements - see p. 2, lines 1 - 7).

Disclosed Prior Art does not teach a method wherein each of said product rules comprises a name of said product rule; a status of said product rule; pricing and billing information, including a link to one of said price tables; and display only information.

Parsaye discloses a method wherein each said produce rule (rule) comprises including a link (relation) to one of said data in information storage (frames). ("Rules, which relate facts and frames."- see p. 57).

Hendler discloses a method wherein each of said product rules (rules) comprises:

- a name of said product rule (rule). ("...shows the importance of naming rules carefully in the first place..." - see p. 113);
- a status of said product rule (rule). ("The ":::" marks the beginning of rule attributes. There are predefined system attributes, such as status and author."- see p. 133); and

- display only information. (Rule accesses knowledge base and retrieved information is "selectively displayed as desired by the knowledge base author or eventual users by using the DISPLAY command (e.g. DISPLAY DEFINITION (OBESITY) or DISPLAY CERTIFICATION)."- see pp. 46 - 47).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art and Parsaye by incorporating a linkage between the product rule and stored data, as disclosed by Parsaye, and naming the product rule, providing a status of the product rule and assigning display only information, as disclosed by Hendler, to incorporate and utilize standard conventions and procedures commonly utilized for rule-based expert systems.

Regarding Claim 17, Disclosed Prior Art does not teach a method wherein said product rule further comprises a plurality of mandatory attributes, said mandatory attributes include an identifier for said product rule.

Hendler discloses a method wherein said product rule further comprises:

- a plurality of optional/mandatory attributes (rule attributes), said mandatory attributes (rule attributes) include an identifier (name) for said product rule. (supra - see pp. 113 and 133).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art, Parsaye and Hendler by incorporating attributes, both optional and mandatory, with one attribute including an identifier (name) to the product rule, as disclosed by Hendler, to incorporate and utilize

standard conventions and procedures commonly utilized for rule-based expert systems, such as providing the rule an identifier by which access to the rule can be obtained.

Regarding Claim 18, Disclosed Prior Art does not teach a method further comprising in creating one of said product rules, applying a validating rule to validate said product rules prior to committing said product rules to said database system.

Validation and verification of rules within a rule-based expert system prior to implementation is old and well-known in the art of computer system design and expert system design, as evidenced by Parsaye (see pp. 295 - 309) and Hendler (see p. 31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art, Parsaye and Hendler by incorporating a validating rule, as disclosed by Parsaye and Hendler, to access the validity and accuracy of the rules prior to implementation of the system.

Regarding Claim 23, further system claim would have been obvious from method claims rejected above, Claims 14 and 17, in combination, and is therefore rejected using the same art and rationale.

Regarding Claim 24 - 29, further system claims would have been obvious from method claims rejected above and is therefore rejected using the same art and rationale.

Claims 6 – 16 and 20 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Disclosed Prior Art and Parsaye, as applied to Claims 1 and 5 above, and further in view of ***Official Notice***.

Regarding Claims 6 – 16, Disclosed Prior Art does not teach a method wherein said pricing method is flat fee, unit price, unit cost, volume discount, tiering, cost plus, minimum revenue, markup of total price nor bundled pricing across a group of accounts.

Examiner takes ***Official Notice*** that the above cited pricing methods are old and well-known in the art of marketing and product pricing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Disclosed Prior Art and Parsaye by incorporating various old and well-known pricing methods into the price tables (fee arrangements) allowing for pricing of financial transactions (products) based upon any old and well-known pricing strategies that the inventor desired.

Regarding Claim 20 - 22, Disclosed Prior Art discloses a method wherein said price table (fee arrangement) contains prices (fees). (fee arrangements - see p. 2, lines 1 - 7).

Disclosed Prior Art does not teach a method wherein said price table contains costs nor neqative values.

Examiner takes ***Official Notice*** that consideration of costs and negative values (costs/losses) in pricing is old and well-known in the art of marketing and pricing. It would have been obvious to have modified Disclosed Prior Art and Parsaye by incorporating costs and negative values into the pricing tables (fee arrangements) allowing for inclusion of old and well-known considerations utilized in pricing.

Response to Arguments

Applicant's arguments filed 6/03/09 have been fully considered but they are not persuasive.

Price Tables

Applicant argues that Disclosed Prior Art and Parsaye neither teach nor suggest the claimed element of "price tables." Applicant specifically argues against the Examiner's mapping of the term “table” to “frames," a term contained within Parsaye.

First, the term “table” and “frames" are both data organizational structures. As Parsaye states:

> Each frame has a higher-level frame (parent frame) to which it belongs. For instance, the parent frame for Ford may be Automobile. The characteristics of each frame are captured in its slots or attributes. A frame may contain a number of slots that can be filled with specific instances of data. (see p. 50).

Examiner asserts that “frames” are organizational structures for data that are analogous to “tables” with the “slots” contained within “frames” being analogous structures to the "cells" contained within "tables".

Regardless, Parsaye explicitly discloses the usage of tables as an organization structure for databases. (pp. 204 - 210).

> As discussed in Appendix D, the relational data model views the world in terms of relations which are essentially tables. We often use the term table, instead of relation. Each entry has a value for each attribute. Each table has a schema, which lists its attributes or fields. The relation, or table, is obtained by providing instances, entries or records for the schema. Further, each entry or record has a record number which uniquely identifies it. (see p. 204).

Furthermore, Parsaye's disclosure supports the Examiner's contention that “frames” are an analogous structure is supported in this interpretation as Parsaye

further discloses tables of relational databases are analogous data organizational structures to that of frames.

> Again the relationship between frames and relational databases is clear. Frame names correspond to table names, slots to attributes and instances to records.
>
> Further, we now have a three way mapping (Figure 5.10) between tables, predicates and frames as follows.

Relational Databases	Frames	Logic
Schema	Frame Schema	Clause Schema
Attribute	Slot	Argument
Value	Value	Value
Record	Instance	Fact (see p. 207).

Examiner asserts that Parsaye explicitly discloses the usage of tables for the storage of data within a database and discusses additional data organizational structures analogous to "tables."

Applicant asserts that “frames” have additional elements and features that invalidate the Examiner's interpretation of "frames" as being an analogous organizational structure. However, additional elements or features within the prior art does not diminish the teachings of the disclosure.

Official Notice

The Examiner would like to point out that Official Notice statement(s) were used in the office action mailed on 12/05/08 to indicate that certain concept(s), technology(s) and/or methodology(s) are old and well known in the art. Per MPEP 2144.03(c), since applicant has not attempted to traverse such Official Notice statement(s), Examiner is taking the asserted common knowledge and/or well-known statement to be admitted prior art.

Error in Grounds of Rejection

As Applicant surmised there was a typographical error contained in the Office Action mailed 12/05/08 and properly interpreted Examiner's intention that the rejection of Claim 24 was based on the same purported teachings of Parsaye on "price tables". Such typographical error has been corrected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. BORLINGHAUS whose telephone number is (571)272-6924. The examiner can normally be reached on Monday - Friday; 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James A. Kramer can be reached on (571)272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M Borlinghaus/
Examiner, Art Unit 3693
August 29, 2009